

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) The method as defined in claim ~~[[1]]~~ 10 wherein the ~~preselected locating device comprises a wand for communicating~~ communicates a pointing direction in an augmented-reality display system ~~[[,]]~~ and the detecting ~~comprising capturing includes~~ detecting pixel location on the view plane of the beads on the wand ~~corresponding to the three preselected co-linear points.~~

6. (Currently Amended) The method as defined in claim 5 wherein the beads comprise a predetermined color and the detecting determining includes detecting the pixel locations representing a property of the color.

7. (Original) The method defined in claim 6 wherein the color property is at least hue.

8. (Currently Amended) The method as defined in claim 5 wherein the detecting determining includes finding a center pixel location of each of the beads.

9. (Currently Amended) The method as defined in claim ~~[[1]]~~ 10 wherein the known camera geometric dimensions comprise a given distance between a view point and a the view plane of the video camera, and the calculating includes ~~comprises~~ converting the relative positions of the ~~points~~ beads based on the given distance and

the known spacing of the points beads, to an object distance in the free space between the ~~predetermined locating device~~ wand and the view plane.

10. (original) A method for determining a location of a wand in a preselected free space from a video image of the wand, wherein the wand comprises three equidistantly-spaced, co-linear beads, comprising steps of:

capturing the video image of the wand on a view plane of a video camera system wherein the image is represented by a frame memory including relative positions of the beads;

determining centers of the beads on the view plane and relative spacings between the centers; and,

calculating coordinate positions of the beads in the free space based upon the relative spacings and known camera system geometries of generating the video image.

11. (original) The method as claimed in claim 10 wherein the wand includes an alignment indicator and the calculating includes determining a pointing direction of the wand from the alignment indicator and the coordinate positions of the beads.

12. (original) The method as claimed n claim 11 wherein the beads comprise a distinctive indicia from a background setting of the video image and the determining includes recognizing the distinctive indicia.

13. (original) The method as claimed in claim 10 wherein the calculating comprises unprojecting the video image and verifying that the coordinate positions are reasonable representations of the wand in the free space.

14. (Cancelled)

15. (Cancelled)

16. (Currently Amended) The system as defined in claim ~~44~~ 10 wherein the ~~processor~~ calculating further includes means for verifying that the coordinate positions are consistent with a plausible free space position of the ~~locating device~~ wand.